



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/528,229

03/18/2005

Daisuke Itoh

2005_0470A

6230

513 7590 04/17/2008

WENDEROTH, LIND & PONACK, L.L.P.

2033 K STREET N. W.

SUITE 800

WASHINGTON, DC 20006-1021

EXAMINER

WOOD, ELLEN S

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

04/17/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/528,229	Applicant(s) ITO ET AL.	
	Examiner ELLEN S. WOOD	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Obuchi et al. (US 6,417,294).

In regards to claims 1-2, Obuchi et al. disclose an item that was formed from aliphatic polyester and a transparent nucleating agent (col. 1 lines 10-12). Crystalline aliphatic polyester is a type of aliphatic polyester that can be used in combination with the transparent nucleating agent (col. 2 line 37). Obuchi et al. disclose that crystallinity is increased in order to improve thermal resistance (col. 2 lines 26-27). It is known in the art that stretching a material will increase the crystallinity of said material. The higher crystallinity will improve the thermal resistance. The materials will have a higher crystal melting point than that of an un-stretched or untreated product. It is the Examiner's view that the stretched product having an a higher crystal melting point by at least 5°C would be inherent given that the purpose of stretching the product is to improve the crystal melting point. Obuchi et al. disclose that the molding and forming are generally carried out by common processes such as injection molding, extrusion, blow forming, inflation forming, contour extrusion, injection blow molding, vacuum pressure forming and spinning (col. 15 lines 30-33). The Examiner's view is that the

Art Unit: 1794

Applicants use of “stretched” is a broad limitation, thus, “stretched” includes any form in which the material is formed from expanding the material such as in injection blow molding.

In regards to claim 5, Obuchi et al. disclose that the invention can also provide the aliphatic polyester formed item, which has a crystallization degree of 30% or more measured by X-ray diffraction (col. 16 lines 43-45).

In regards to claim 7, Obuchi et al. disclose that a container was formed from an injection blow-molding machine and was blown to expand twice in both the longitudinal and transverse directions (col. 27 lines 40-43). Thus, the container would contain the properties disclosed by Obuchi et al.

In regards to claims 8-9, Obuchi et al. disclose that the aliphatic polyesters includes a comopolymer of aliphatic hydroxycarboxylic acid such as glycolic acid (col. 8 lines 49-53).

In regards to claim 10, Obuchi et al. disclose the main purpose of the invention is to provide transparent and thermal resistance films (col. 2 lines 1-5).

In regards to claim 11, Obuchi et al. disclose a container was formed from an injection blow-molding machine, thus the product was stretched (col. 27 lines 40-43).

In regards to claim 12, Obuchi et al. disclose that the films and sheets prepared by the process of the invention can also be used for a laminate of multi-layer structures (col. 16-17 lines 66-67 and line 1).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Obuchi et al. (US 6,417,294).

Obuchi et al. disclose the conditions in which the conditions of the article that was formed had a molding temperature of a temperature between 59°C-163°C. This range falls within the temperature range that the conditions that the film were formed which was around 45-60°C. Obuchi et al. disclose that a container was formed from an injection blow-molding machine and was blown to expand twice in both the longitudinal and transverse directions (col. 27 lines 40-43). Obuchi et al. disclose a film that contains the same materials as though claimed by Applicant.

Obuchi et al. is silent to disclose the sub and main dispersion peak temperature according to dynamic viscoelasticity measurements. However, the conditions in which the films were stretched for both Obuchi et al. and the Applicant are the same, thus the physical properties would be the same for the final film.

Additionally, It would have been obvious to one having ordinary skill in the art at the time the invention was made to have varied the stretching conditions to as to produce a highly crystalline material having the claimed properties. This is based on

the general concept that Obuchi et al. recognize that the stretched product has improved thermal properties.

Response to Arguments

5. Applicant's arguments filed 12/17/2007 have been fully considered but they are not persuasive.

Applicant argues that stretching of crystalline thermoplastic resin does not increase the crystal melting point. However, the documents submitted with the arguments reflect a poly(vinyl alcohol) and nanocomposites. These are not the type of polyesters reflected by the specifications of the instant applicant. It is known to one of ordinary skill in the art that a crystalline polyester has a lower melting point when more imperfections are present within the polyester. Imperfections are defined as segment of the polymer chains that have previously been too far from alignment to crystallize or crystals that are less perfectly formed. The less perfectly formed crystals will have a melting point that is lower than those that are more perfectly formed. Therefore, the more perfectly formed crystals in the polymer chains an increase of melting point will occur (2002/0022099 [0087]). To one of ordinary skill in the art a common way to bring the segments into alignment is stretching the polymer (*Encyclopedia of Polymer Science and Engineering* pgs. 197-198). The examiner does not consider this to be a persuasive argument and the rejection is not traversed.

Applicant argues that the stretching conditions are not comparable to those adopted in the present invention. The molding temperature of article is within range of

the claimed ranges of the instant applicant. Also, the compositions are of identical material. The orientation of degree measured according to wide-angle X-ray diffractometry is also identical. It is also known to one of ordinary skill in the art that the crystal melting point will increase when stretched as explained previously. Also, the dispersion point is the stability of the fine particles in the polyester. Therefore, it would be clear that if one were to stretch the polyester to align the segments of the polymer chains, one would get a more stable distribution of particles based on the higher melting point of the polyester. Thus, the examiner finds the arguments of the applicant non-persuasive and the rejection of claims 1-12 are not traversed.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELLEN S. WOOD whose telephone number is (571)270-3450. The examiner can normally be reached on Monday-Friday 7-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ellen S Wood
Examiner
Art Unit 1794

/Carol Chaney/
Supervisory Patent Examiner, Art Unit 1794